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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,353	07/10/2003	Kenneth J. Vosniak	60497.000014	1558
21967 7590 01/25/2008 HUNTON & WILLIAMS LLP INTELLECTUAL PROPERTY DEPARTMENT 1900 K STREET, N.W. SUITE 1200 WASHINGTON, DC 20006-1109			EXAMINER WEATHERBY, ELLSWORTH	
			ART UNIT 3768	PAPER NUMBER
			MAIL DATE 01/25/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/616,353	Applicant(s) VOSNIAK ET AL.	
	Examiner Ellsworth Weatherby	Art Unit 3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-17 and 19-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-17 and 19-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/09/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/2007 has been entered:

Response to Arguments

2. Applicant's arguments filed 08/08/2007 have been fully considered but they are not persuasive.

Applicant alleges that Damadian in view of Mohapatra do not disclose the step of "during the data acquisition step for the first scan, completing a second data entry step relating to a second scan...unit." However, the examiner stands that because Damadian defines two distinct components, the patient handling time and the scan protocol time, and further teaches that these time components are multiplexed to enhance patient throughput. The examiner agrees that Damadian does not teach entering imaging parameters or verifying the identity of the patient during the patient handling step. However, this deficiency is overcome by Mohapatra et al. '905, who teaches a method of entering information relating to a diagnostic scan including verifying patient

identification by directly entering it into a secondary input device as well as entering image configuration data during the patient handling step (col. 10, lines 36-39).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 19, 23-24, 30-31 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Waku et al. (PGPub. No. 2002/0099571).

Waku et al. '571 teaches a method of configuring a scan in an imaging device comprising data acquisition for a first patient (fig. 4) wherein basic patient information is input [172]. The system may be used for management of imaging diagnostic apparatuses including x-ray, computed tomography, magnetic resonance, and nuclear medicine, which is known to include both PET and SPECT imaging systems. A list of patients is provided, wherein scanning of one patient immediately follows the scanning of the patient according to schedule [0179]. As shown in figures 5 and 6, there are multiple process for each patient as well as multiple patients in the database. The system may execute medical works, such as the processes shown in figures 5 and 6, relating to a plurality of patients in parallel in a single apparatus [36]. Therefore, it is

interpreted that the patient identification step for a second patient may take place in parallel with the scan of a prior patient (fig. 5). Before a patient is scanned, they go through the steps of patient identification, scanning, reconstruction, image processing etc. in the order they are provided. Additionally, a patient identification card is used to prevent a patient from being mistaken and is used to start the treatment, for example the imaging, or the patient [0187]. The database of all patients may be queried to determine the next patient, for example obtaining a list of patients for the entire radiation section or only one for one particular imaging system or the time the exam is scheduled (fig. 7). A filter may be used to limit the display to desired information [0109]. Information may be downloaded from a central or global database (fig. 16) and also may be entered locally, as previously described. Parameters for a scan are entered, such as the contrast medium desired [0141] and the plans for the scan, or scan protocol [0142]. A controller allows processes to be executed automatically, including executing parallel processes, which allows the steps to be completed in a single action [0052].

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, and 8-14, and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damadian et al. (U.S. Patent No. 5,623,927) in view of Mohapatra et al. (U.S. Patent No. 5,525,905).

7. Damadian et al. '927 teaches a system and method for improving patient throughput in an imaging device where patient handling time and scan protocol time are reduced in a multipatient imaging system by multiplexing the patient handling and the necessary scan protocol components where the patient handling of one patient is overlapped with the scan protocol of a second patient (abstract). That is, Damadian et al. '927 teaches completing a patient handling step for a second scan (preparation of the patient, loading the patient onto the patient handling system, placing the patient through the magnet aperture into the imaging volume, positioning the radio frequency coils onto or about the patient, attaching any ancillary equipment necessary for a particular patient or scan protocol, removing the patient following completion of the scan protocol, unloading the patient from the patient handling system, and preparing the scanner for the next patient) during the data acquisition step for a first scan (col. 2, ll. 18-37). Damadian et al. '927 further teaches two signals; a second scan ready signal (Fig. 5) and a first scan complete signal (Fig. 5) where upon completion of the data acquisition step for the first scan and the patient preparation for the second scan beginning the data acquisition step for the second scan (col. 7, ll. 45-55). Damadian et al. '927 also teaches a scan processing unit that receives inputs and electrical signals for controlling the operation of the imaging device (col. 7, ll. 38-44). Damadian et al. also teaches methods involving acquisition of imaging data from an individual patient, and

that the scan protocol typically involves executing a single pulse sequence, or series of pulse sequences where during the acquisition of such imaging data from two or more patients simultaneously, a scan protocol can acquire imaging data from a pulse sequence or series of pulse sequences as follows: (a) in queue mode, from each patient successively; (b) in interleaved mode, where each portion of the entire data acquisition contains imaging data from only one of multiple patients, and where the separate portions of the entire data acquisition are collected in interleaved fashion; (c) in multipatient mode, where each portion of the entire data acquisition contains imaging data from more than one patient; (d) or in any combination of queue mode, interleaved mode and multipatient mode of data acquisition (col. 5, l. 66- col. 6, l. 18).

Damadian et al. '927 teaches all the limitations of the claimed invention including overlapping the scan protocol entry and patient handling, as well as sequentially determining that a next patient is to arrive at a scanner (abstract). However, Damadian et al. '927 does not expressly teach that the method comprises entering imaging parameters or verifying the identity of the patient during the patient handling step.

In the same field of endeavor, Mohapatra et al. '905 teaches a method of entering information relating to a diagnostic scan including verifying patient identification by directly entering it into a secondary input device as well as entering image configuration data during the patient handling step (col. 10, lines 36-39).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Damadian et al. '927 with Mohapatra et al. '905. Because both Damadian et al. '927 and Mohapatra et al. '905 teach improving patient throughput

there would have been motivation to modify Damadian et al. '927 with Mohapatra et al. '905 to save time by inputting patient identification data during the patient handling step, thereby improving the patient throughput or system efficiency. Furthermore, the system of Damadian et al. '927 in view of Mohapatra et al. '905 would be equally applicable to other imaging diagnostic apparatuses including x-ray, computed tomography, magnetic resonance, and nuclear medicine, which is known to include both PET and SPECT imaging systems.

8. Claims 4-6 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damadian et al. '927 in view of Mohapatra et al. '905 as applied to claims 1, 3, and 8 above, and further in view of Waku et al. '571.

Damadian et al. '927 in view of Mohapatra et al. '905 teaches all the limitations of the claimed invention except for expressly teaching that the method further comprises the step of specifying at least one criterion for determining a next patient to be scanned. Damadian et al. '927 in view of Mohapatra et al. '905 also do not expressly teach downloading information from a central database and receiving data entered at the site where the scan takes place that data comprising radioactive tracer information.

In the same field of endeavor, Waku et al. '571 teaches specifying at least one criterion for determining a next patient to be scanned [0173]. Waku et al. '571 also teaches downloading patient information from a centralized server, as well as entered locally at the imaging device [0084; 0135]. Waku et al. '571 also teaches data entered locally comprises radioactive tracer information [141].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Damadian et al. '927 in view of Mohapatra et al. '905 with Waku et al. '571. The motivation to modify Damadian et al. '927 in view of Mohapatra et al. '905 with Waku et al. '571 would have been to prevent the operator misidentification of the patient as well as, reducing the burden of data input of patient information into the apparatus, as taught by Waku et al. '571 [0187].

9. Claims 20 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waku et al. '571 in view of Liu et al. (U.S. Patent No. 6,505,064).

Waku et al. '571 teaches all the limitations of the claimed invention except for expressly teaching that the at least one criterion comprises a tracer injection time.

Liu et al. '064 teaches a diagnostic imaging system using a contrast agent and further discloses that time course information such as blood flow rate, contrast agent propagation, and contrast agent peak arrival time, is logged in a database which provides additional diagnostic information or timing information for future reference (abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Waku et al. '571 with Liu et al. '571. The motivation to modify Waku et al. '571 with Liu et al. '571 would have been to include contrast timing information to the database disclosed by Waku et al. '571 to provide timing information, as disclosed by Liu et al. '571.

10. Claims 21 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waku et al. '571 in view of Navov et al. (U.S. Patent No. 2004/0073453).

Waku et al. '571 teaches all the limitations of the claimed invention except for expressly teaching that the criterion comprises patient arrival time.

In the same field of endeavor, Navov et al. '453 teaches a hospital data management system and further discloses that clinical management data may include patient's arrival time such that the physician may be updated to the status of the patient and arrange his or her schedule accordingly [0065].

Because Waku et al. '571 teaches determining the scan order based on input time [0173] it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Waku et al. '571 with Navov et al. '453. The motivation to modify Waku et al. '571 with Navov et al. '453 would have been to include arrival time to the database disclosed by Waku et al. '571 such that the list of patients is up to date as to which patients have actually arrived to reduce time physicians and imaging technicians are waiting for late patients.

11. Claims 22 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waku et al. '571 in view of Lee et al. (PGPub. No. 2003/0093296).

Waku et al. '571 teaches all the limitations of the claimed invention except for expressly teaching that the criterion comprises patient registration time.

In the same field of endeavor, Lee et al. '296 teaches a model of general hospital tasks that are monitored by a hospital information system including registration of a

patient allowing integration between the order communication system and the information management system [0109].

12. Because Waku et al. '571 teaches determining the scan order based on input time [0173] it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Waku et al. '571 with Lee et al. '296. The motivation to modify Waku et al. '571 with Lee et al. '296 would have been ensure that the database disclosed by Waku et al. '571 is up to date as to which patients have been registered to allow the status of the patient to be monitored and available for determining order for imaging of the pending patients, thus providing improved patient flow.

13. Claims 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waku et al. '571 in view of Damadian et al. '927 and Mohapatra et al. '905.

Waku et al. '571 teaches all the limitations of the claimed invention including downloading information from a central database and entering data locally at a site where the scan takes place [0084; 0135]. Waku et al. '571 also teaches entering contrast agent information [0141]. Waku et al. '571 also teaches querying the data base with one action (fig. 7) and commanding the imaging device to begin the second scan with a second action [0051; 0084].

Waku et al. '571 does not expressly teach entering a scan protocol that further comprises, conducting a data acquisition step for a first scan, the data entry step including entering scan configuration data related to the second scan into a scan processing unit during the data acquisition step for the first scan.

In the same field of endeavor, Damadian et al. '927 teaches a method of improving patient throughput in an imaging device where patient handling time and scan protocol time are reduced in a multipatient imaging system by multiplexing the patient handling and the necessary scan protocol components where the patient handling of one patient is overlapped with the scan protocol of a second patient (abstract). That is, Damadian et al. '927 teaches completing a patient handling step for a second scan (preparation of the patient, loading the patient onto the patient handling system, placing the patient through the magnet aperture into the imaging volume, positioning the radio frequency coils onto or about the patient, attaching any ancillary equipment necessary for a particular patient or scan protocol, removing the patient following completion of the scan protocol, unloading the patient from the patient handling system, and preparing the scanner for the next patient) during the data acquisition step for a first scan (col. 2, ll. 18-37). Damadian et al. '927 further teaches two signals; a second scan ready signal (Fig. 5) and a first scan complete signal (Fig. 5) where upon completion of the data acquisition step for the first scan and the patient preparation for the second scan beginning the data acquisition step for the second scan (col. 7, ll. 45-55)

Damadian et al. '927 does not expressly teach entering scan information during the acquisition of the first scan.

In the same field of endeavor, Mohapatra et al. '905 teaches a method of inputting patient identification and scan protocol data before the arrival of the patient to the scanner (col. 10, lines 36-39).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Waku et al. '571 with Damadian et al. '927 and Mohapatra et al. '905. Because Waku et al. '571 teaches improving patient throughput there would have been motivation to modify Waku et al. '571 with Damadian et al. '927 and Mohapatra et al. '905 to save time by inputting patient identification data during the patient handling step, thereby improving the patient throughput or system efficiency.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellsworth Weatherby whose telephone number is (571) 272-2248. The examiner can normally be reached on M-F 8:30 a.m. - 5:00 p.m..


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eleni Mantis-Mercader can be reached on (571) 272-4740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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